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QUARTERLY TECHNICAL REPORT NO. 22,  
JULY 1, 1973 - SEPTEMBER 30, 1973

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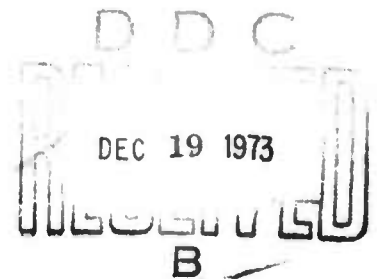
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THE DIMENSIONALITY OF NATIONS PROJECT  
Department of Political Science  
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ABSTRACT

This is the last quarterly technical report for DON under the Five Year Research Program initiated in 1967. A variety of analyses were completed during the quarter linking behavior and attributes. It was found that about fifty percent of the variation in dyadic nation behavior is explained by their attribute differences and similarities. Moreover, the degree of similarity in power predicts highly to the level of cooperation and conflict between nations.

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INTRODUCTION

This twenty-second quarterly report is divided into seven sections. The first describes the analyses initiated and completed during the quarter; the results of special significance are highlighted. Methodological problems faced during the analyses along with any computer programs that have been written or revised during the quarter are discussed in the second section. In this and the previous section, technical terms and discussions are avoided where possible. The third section describes the data collections begun and completed during the quarter. Current personnel, personnel commitments made and consultation noted in the fourth section. Project activities are discussed in the fifth section and the sixth section covers project publications, research reports, and monographs in preparation and completed. The final section delineates changes in the DON budget, status of subcontracts, and expenditure to date.

I. ANALYSES

Since this is the last quarter under the current contract, a large number of analyses were done by the project. First there were a variety of analyses defining the stable dimensions of national attributes across the period 1950-1965. As was anticipated we found that the major dimensions are the same that have been found in cross-sectional analysis. These are economic development, power or capability, political orientation, Catholic culture, density, and domestic conflict among others. Similar analyses were done for the dyadic behavior of nations across the same period and similar dimensions were also defined to what had been found in cross-sectional analyses. These were dimensions of deterrence, UN voting, transactions, exports, among others.

In order to make sure that our dimensions were invariant of the kind of specific technique that we used, three different kinds of analyses were done on the data which all converged on similar dimensions. One analysis was using component analysis, another using component analysis on transformed data, and a third using what is called the image factor model.

Using then the results from the above analyses a variety of canonical tests were done of the field theory structure which has oriented the project's work. The B-space dimensions of dyadic behavior were regressed upon the distances between nations and their economic development, power, political orientation, and so on. This was done for each of the different kinds of analyses mentioned above. The results were uniformly good, showing in general that about fifty percent of the variation in international behavior can be accounted for by the similarities and differences between nations.

Especially important was our defining the major power relationships in the data. It was found that the more nations were similar in power capability, the more they would either conflict or cooperate with each other. The relationships here were consistent and at the level of about ninety percent of the variance.

Of course, much analysis now needs to be done of the above results and the project is now trying to determine the best indicators for the dimensions that have been found and will be redoing the above tests of the relationship of behavior to attribute similarities and differences for the indicators that are selected. Clearly, if these results are to be useful to academics and policy makers they will have to be taken out of the realm of dimensions and canonical analysis and so on, and put into the parlance of GNP per capita, energy consumption, military men under arms, and their relationships of these to UN voting, deterrence, threats, and so on.

## II. METHODOLOGY AND COMPUTER PROGRAMS

No new computer programs were developed during this quarter and no additional methodological research was undertaken. Both in terms of methodology and computer programs the project is, at this point, very well-off. Our effort now is wholly devoted to exploiting what computer programs we have and what methodological skills that have developed to accomplishing our major substantive and theoretical task.

## III. DATA

During the quarter, our data collection for Asia was completed. This involved collecting data for over four hundred dyads for some fifty variables on the years 1950, 1955, 1960, 1963, and 1965.

The data checking or screening procedures were about halfway completed by the end of the quarter. Upon completion of the data screening, the data will be then prepared in a research report so that they can be made available to others, and then submitted to an archive.

With the completion of our data collection on Asia, the total data collection projected for the DON Project in 1967 has now been finished.

## IV. PERSONNEL

### 4.1 Project Director

During this quarter, the principal investigator, Professor R. J. Rummel, participated in a two-week workshop sponsored by the East-West Center. The purpose of this workshop was to define a research design for analyzing the interaction and communication between the United States and Japan which is due to improving U.S.-Japan relations.

About two dozen people from Japan and the United States were invited to the workshop, including Bruce Russett, Dave Bobrow, Roger Benjamin, among others.

The principal investigator also finished the second draft of a manuscript dealing with the psychological fundamentals underlying the project's analysis. This manuscript is titled "The Dynamic Psychological Field: A Psycho-Philosophical Prolegomenon to a Dynamics of Violence and War."

The principal investigator also entered into discussions with ONR over publishing through Sage Publications five books which would constitute research reports under the current contract. One of these books would deal with the theoretical structure within which the research has been going on, the second one would present the conflict results, a third would go into our dyadic behavioral results and their linkages to attribute similarities and differences, a fourth would do the same for Asia, and a fifth would be an overview of the whole project, critiques and responses.

#### 4.2 Assistant Director

Dr. Sang-Woo Rhee, Assistant Director of the project, had to return to Korea in April. His visa expired and by virtue of his visa category he had to leave the country for two years before being able to return.

However, on invitation of the project director, Dr. Rhee returned to the project for one month during the summer without pay to help us complete our Asian data collection, and our analyses. This went far beyond the call of duty and the project owes Dr. Rhee a debt of gratitude for his interest and concern in our work.

#### 4.3 Research Assistants

Mr. Chang-Yoon Choi completed his dissertation under the project during the quarter. This dissertation, titled "The Contemporary Foreign Behavior of the U.S. and U.S.S.R.: An Application of Rummel's Status-Field Theory," was concerned with determining the dimensions of dyadic behavior of the United States to all of the countries for the years 1960 and 1965 and doing a similar analysis for the Soviet Union for the same years. Secondly, Mr. Choi was interested in linking the dimensions thus determined to the similarities and differences between the United States and object nations, and similarly the Soviet Union and her object nations.

The results were very similar for the United States and Soviet Union. Both nations manifest similar patterns of dyadic behavior and their patterns are linked to the same kinds of capabilities, political orientation, and economic development differences. The only major shift between the United States and Soviet Union is in the relevance



of political orientation to their behavior. In total, the analysis showed that similarities and differences predict to about fifty percent of the variation in the behavior of each nation towards others.

Two new students joined the project. One is Mr. Omar Nassery, an East-West Center grantee from Afghanistan. He's interested in merging political theory and international relations and in learning about the kind of methodology the project is employing. Mr. Vernon Umetsu, a senior here at the University of Hawaii, has joined the project on a nonpaying basis to gain some understanding as to how this kind of methodology the project is using is useful in understanding international relations.

## V. DON ACTIVITIES

### 5.1 DON Staff Meetings

Because of the increased tempo of our research this summer staff meetings were held once a week and for about two hours each. These staff meetings concentrated upon interpreting the nature of our varied results and discussing the basis for the subsequent analyses resulting from them.

### 5.2 Reading Group Meetings

As a way of introducing research assistants and volunteers on the project to the voluminous literature relevant to the kind of research we are doing, the principal investigator instituted a reading group which meets two hours once a week. At these meetings, participants present their views of books they have read and these serve as the focus of discussion for additional literature and for the relevance of this literature to the kind of work the DON project is involved in.

## VI. PUBLICATIONS AND REPORTS

### 6.1 Research Reports

Choi, Chang-Yoon. "The Contemporary Foreign Behavior of the U.S. and U.S.S.R.: An Application of Rummel's Status-Field Theory." October 1973

### 6.2 Dissertations

Choi, Chang-Yoon, "The Contemporary Foreign Behavior of the U.S. and U.S.S.R.: An Application of Rummel's Status-Field Theory."



### 6.3 Manuscripts

The principal investigator completed his manuscript on "The Dynamic Psychological Field: A Psycho-Philosophical Prolegomenon to the Dynamics of Violence and War."

## VII. BUDGET

### 7.1 Fiscal Status

At the conclusion of this quarter, which was the conclusion of the contract under which DON has been funded since 1967, about \$2,000 remain in the DON account. This money, however, will be used up in September to finish the analyses and prepare the technical report pursuant to the contract.

#### 7.1.1 Amount Funded

The maximum amount available for reimbursement is \$871,846.00.

#### 7.1.2 Estimate Expenditures and Commitments

Total expenditures to date (09-01-67 to 09-30-73): \$871,768.15

Total estimated expenditures (09-01-67 through  
08-31-73): \$871,846.00

7.1.3 Estimate Funds Required: None. All funds have been or will be expended under the contract.